

What is claimed is

1. A filtering method for a pixel  $P$  of a block  $B$  in a reconstructed image, comprising:

5       selecting one of a plurality of filtering masks based upon a position of said pixel  $P$  in said block  $B$ ; and

averaging said pixel  $P$  and candidate pixels within the selected filtering mask.

10       2. A method of claim 1, wherein each of the plurality of filtering masks has 8 tabs.

15       3.. A method of claim 1, wherein a filtering mask with more tabs toward a block adjacent said block  $B$  is selected.

4. A method of claim 1, further comprising selecting a pixel within the selected filtering mask  $P_m$  as a candidate pixel if the value of the pixel  $P_m$  meets a predetermined condition.

20       5. A method of claim 4, wherein the pixel  $P_m$  is selected as a candidate pixel if the absolute value of the difference between said pixel  $P$  and pixel  $P_m$  is less than a threshold value.

6. A method of claim 5, wherein the threshold value is calculated by an equation below,

$$\delta = k \times q$$

where k is a constant and q is a quantization step

5 interval of said block B.

7. A method of claim 6, wherein the value of k is 1.0 for filtering boundary pixels of said block B and 0.6 for filtering pixels within the boundary pixels of said block B.

10 8. A method of claim 4, further comprising adding a weight value to said pixel P prior to the averaging, wherein said weight value is based upon a number of pixels  $P_m$  not selected as candidate pixels.

15 9. A method of claim 8, wherein said weight value is the number of pixels  $P_m$  not selected multiplied by the value of said pixel P.

20 10. A filtering apparatus to filter a pixel P of a block B in a reconstructed image, comprising:

a filtering masking unit selecting one of a plurality filtering masks based upon a position of said pixel P in said

block B; and

an averaging unit averaging said pixel P and candidate pixels within the selected mask.

5 11. An apparatus of claim 10, wherein each of the plurality of filtering masks has 8 tabs.

10 12. An apparatus of claim 11, wherein the plurality of filtering masks are modified 3x3 mask forms including:

a filtering mask in which eight tabs are selected from the 3x3 mask form, discarding one corner tab;

a filtering mask in which more tabs are selected in a vertical direction than a horizontal direction, and more vertical lower tabs are selected than vertical upper tabs;

15 a filtering mask in which more tabs are selected in the vertical direction than the horizontal direction, and more vertical upper tabs are selected than vertical lower tabs;

a filtering mask in which more tabs are selected in the horizontal direction than the vertical direction, and more 20 horizontal left tabs are selected than horizontal right tabs; and

25 a filtering mask in which more tabs are selected in the horizontal direction than the vertical direction, and more

horizontal right tabs are selected than horizontal left tabs.

13. An apparatus of claim 10, wherein a filtering mask with more tabs toward a block adjacent said block B is  
5 selected.

14. An apparatus of claim 10, further comprising:  
10 a comparison unit selecting a pixel within the selected mask  $P_m$  as a candidate pixel if the value of the pixel  $P_m$  meets a predetermined condition.

15. An apparatus of claim 14, wherein the pixel  $P_m$  is selected as a candidate pixel if the absolute value of the difference between said pixel  $P$  and pixel  $P_m$  is less than a threshold value.  
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16. An apparatus of claim 15, wherein the threshold value is calculated by an equation below,

$$\delta = k \times q$$

20 where  $k$  is a constant and  $q$  is a quantization step interval of said block B.

17. An apparatus of claim 16, wherein the value of  $k$  is

1.0 for filtering boundary pixels of said block B and 0.6 for filtering pixels within the boundary pixels of said block.

18. An apparatus of claim 14, wherein the averaging unit  
5 adds a weight value to said pixel P prior to the averaging, wherein said weight value is based upon a number of pixels  $P_m$  not selected as candidate pixels.

19. An apparatus of claim 18, wherein said weight value  
10 is the number of pixels  $P_m$  not selected multiplied by the value  
of said pixel P.

20. A coding and decoding method comprising:  
15 a discrete cosine transform (DCT) unit performing a DCT operation with respect to divided blocks of an image to generate DCT coefficients.;

a quantization unit quantizing the DCT coefficients and transmitting the DCT coefficients in a form of a bit stream through a transmission channel;

20 a dequantization unit dequantizing the DCT coefficients received through the transmission channel;

an inverse DCT unit performing an inverse DCT operation with respect to the dequantized DCT coefficients to form a

reconstructed image, and

a filtering process unit filtering each pixel of each block of the reconstructed image by selecting one of a plurality of filtering masks based upon a position of said pixel in said block; and averaging said pixel and candidate pixels within the selected filtering mask.